

## A new genus of the Compositae: *Paramiflos* (Espeletiinae) from Colombia

Jose Cuatrecasas

Department of Botany MRC-166, Smithsonian Institution, Washington, D.C. 20560, U.S.A.

*Abstract.*—*Paramiflos* is a new genus from the high Andes of Colombia that belongs to the subtribe Espeletiinae of the Compositae. It differs significantly from the related genus *Espeletopsis* and all the other genera of Espeletiinae in the structure of the involucre, which has the outer phyllaries sharply different from the inner phyllaries.

During a study of all the taxa of the Espeletiinae, while trying to place the old species *Espeletia glandulosa* within the genus *Espeletopsis*, special attention was paid to the uncommon structure of its involucre. Almost all the features characteristic of this species agree with other species of *Espeletopsis*, except for the structure of the phyllaries, which are of two types. The sterile (outer) ones are fewer (only 5–7), broad, herbaceous, green, and nearly glabrous. They are distinct from the fertile (inner) phyllaries subtending the ray florets, which differ in their smaller size and in their shape. The latter are scarious, loosely clasping, and partially surround the floret. The contrast in these phyllaries distinguishes *E. glandulosa* not only from *Espeletopsis*, but from all other genera of Espeletiinae. The involucre arrangement resembles rather that seen in *Smallanthus* Mackenzie (a segregate of *Polymnia* in the subtribe Melampodiinae. Because of these differences, here is established a new genus, *Paramiflos*. The name means “flower of the páramo,” the environment that is characteristic of the high tropical Andes.

*Paramiflos* Cuatrecasas, gen. nov.

Caulirosula trunco erecto brevi, foliis linearibus copiosissimis conferte rosulatis. Folia viridia coriacea angustissima marginibus revolutis. Plantae pachycaules univ-

ersaliter glanduliferae. Inflorescentiae plures simultaneae axillare prodientes, quam folia duplo longiores vel ultra; axis erectus rigidus superne ramosus, ramis ramisque alternis bracteatis in corymbo dispositis; pars inferior indivisa nuda ebracteata vel bractea singula distali. Capitula radiata circulo ligularum amplo, 20–35 mm diametro. Involucrum 13–16 mm diametro, cum 5–7 phyllariis exterioribus herbaceo-membranaceis ovato-ellipticis vel obovatis vel oblongis attenuatis acutis, valde inaequalibus saepe asymmetricis 10–18 mm longis 7–11 mm latis, cum phyllariis interioribus satis distinctis bene discretis; aliquando 1–3 phyllariis similaribus sed minoribus intermediis cum phyllariis exterioribus. Phyllaria interiora herbacea uniformiter subverticillata, plerumque biseriata subaequalia, elliptica acuta, dorso rigido convexo marginibus scariosis, 7–8 mm longa, 3–4 mm lata, flores femineos vel fructus amplectentia. Flosculi radii feminei corolla ligulata lutea, tubulo piloso et glandulifero. Fructus nigrescens trigonus faciebus laevibus. Flosculi disci pseudohermaphroditi corolla tubulosa lutea pentamera parce pilosa et glandulifera; antherae 1.8–2 mm longae, basi breviter sagittatae; stylo apice conico bilobato papilloso, ovario sterile. Grana pollinia sphaeroidalia, sphaeroidale-subprolata, sphaeroidale prolata, (23.5)27–31  $\mu\text{m}$  pol. diametro, (23)24–27  $\mu\text{m}$  aeq. diametro, spinis 4.5  $\mu\text{m}$  longis, numero 12.

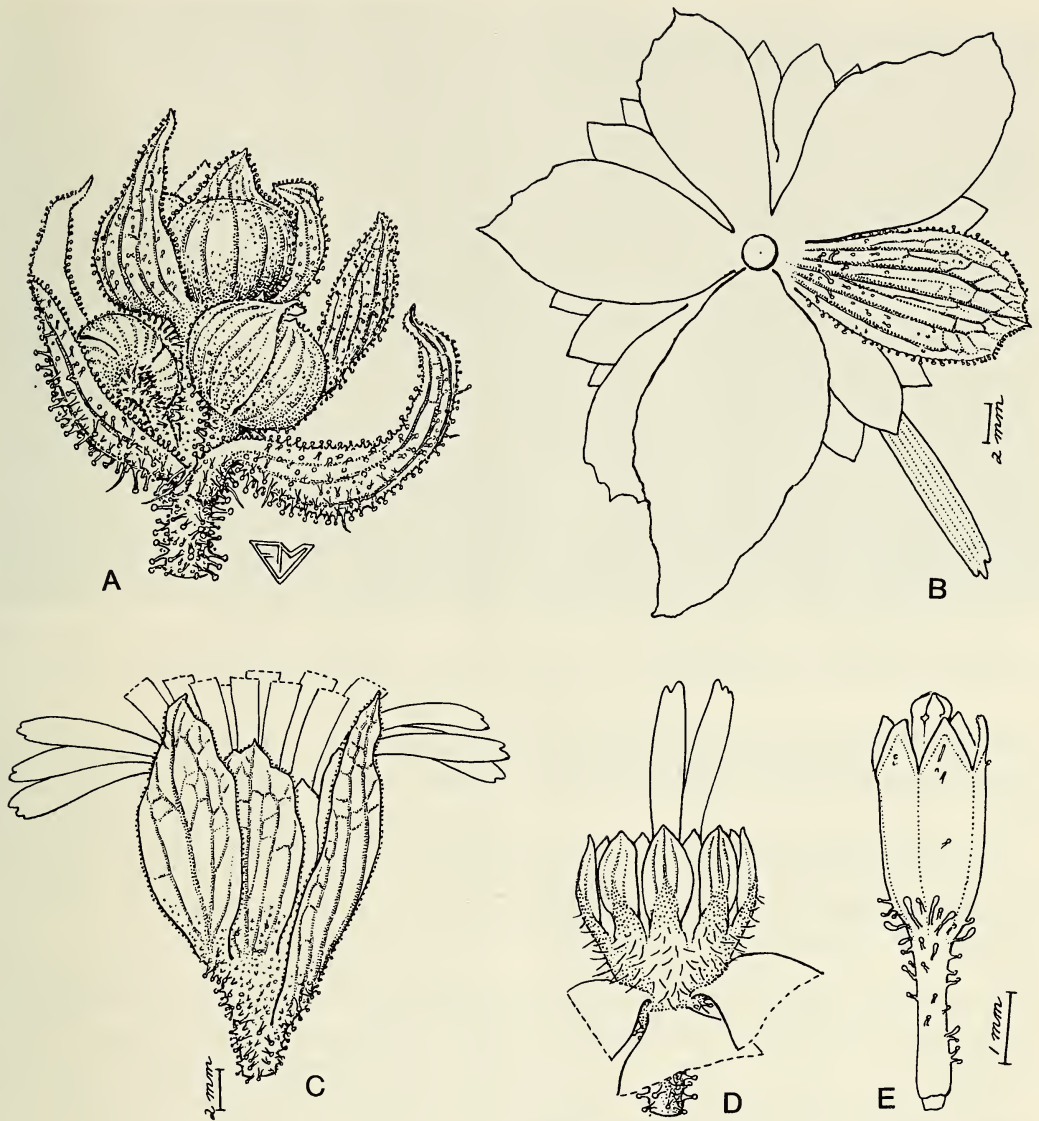


Fig. 1. *Paramiflos glandulosus* (Cuatrecasas) Cuatrecasas. A. Terminal part of inflorescence branchlet supporting three flower buds. B. Extended involucre, abaxial view. C. Capitulum. D. Row of inner phyllaries with the outer phyllaries removed. E. Disk flower.

Type: *Espeletia glandulosa* Cuatrecasas [ $\equiv$ *Paramiflos glandulosus* (Cuatrecasas) Cuatrecasas].

*Paramiflos glandulosus*  
(Cuatrecasas) Cuatrecasas, comb. nov.  
Figs. 1, 2

*Espeletia glandulosa* Cuatrecasas, Revista Acad. Colomb. Cienc. 3:434, f. 17, 18,

23, pl. III. 1940. Type: Colombia: Boyacá: Alto de Canutos, Páramo de Guantiva, south side, 3000 m elev., 3 Aug 1940, *Cuatrecasas 10360* (holotype COL; isotypes F, US).

*Espeletiopsis glandulosa* (Cuatrecasas) Cuatrecasas, *Phytologia* 35(1):55. 1976.

*Distribution.*—Subpáramo and páramo





Fig. 2. Photographs of *Paramiflos glandulosus* at El Bosque, in a páramo close to Alto de Canutos, 3250 m elevation, in Boyacá, Cordillera Oriental, Colombia. Cuatrecasas photos C-1683 and I-3863.

habitats of the Eastern Cordillera of the Andes in the Department of Boyacá, Colombia.

*Discussion.*—*Paramiflos glandulosus* as first published was distinguished by the caulirostulous habit, with dense, linear, very narrow, stiff leaves; by monochasial, corymbose, deciduous, axillary inflorescences with ebracteate scapes; by bright yellow heads; and by the general glandulosity of the plant.

Later, because of some of these characteristics, the species was transferred to *Espeletiopsis* (Cuatrecasas, 1976). More recently, I realized that the structure of the involucre in this species differs substantially from the one common in that genus and in all other Espeletiinae.

In *E. glandulosa* as described, the involucre has 5–7 discretely separate, herbaceous outer phyllaries that are different in shape and size from the pseudoverticillate inner phyllaries that are more like the re-

ceptacular pales. This arrangement is otherwise unknown in *Espeletiopsis* and the other genera of Espeletiinae, which have a gradual and progressive change from the outermost phyllaries to the inner phyllaries and the receptacular pales.

The distinctive structure observed in *P. glandulosus* is similar to one already known in some other genera of the Compositae, e.g., *Smallanthus* (Melampodiinae). However, the characteristic alternate leaves and bracts (not frondose), the triangular non-striate, non-furrowed blackish achenes, the pachycaulous and caulirostulous life-form of the plant, and the deciduous, monochasial, axillary inflorescences clearly define *Paramiflos* as a new genus of Espeletiinae close to *Espeletiopsis*.

#### Literature Cited

- Cuatrecasas, J. 1976. A new subtribe in the Heliantheae (Compositae): Espeletiinae.—*Phytologia* 35(1):43–61.